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Autore	Bai, Yong
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Nota di contenuto	Pt. 1. Structural design principles : Introduction -- Wave loads for ship design and classification -- Loads and dynamic response for offshore structures -- Scantling of ship's hulls by rules -- Ship hull scantling design by analysis -- Offshore structural analysis -- Limit-state design of offshore structures -- pt. 2. Ultimate strength: Buckling/collapse of columns and beam-columns -- Buckling and local buckling of tubular members -- Ultimate strength of plates and stiffened plates -- Ultimate strength of cylindrical shells -- A theory of nonlinear finite lement analysis -- Collapse analysis of ship hulls -- Offshore structures under impact loads -- Offshore structures under earthquake loads -- pt. 3. Fatigue and fracture: mechanism of fatigue and fracture -- Fatigue capacity -- Fatigue loading and stresses -- Simplified fatigue assessment -- Spectral fatigue analysis and design -- Application of fracture mechanics -- Material selections and damage tolerance criteria -- pt. 4. Structural reliability: Basics of structural reliability -- Random variables and uncertainty analysis -- Reliability of ship structures -- Reliability-based design and code calibration -- Fatigue reliability -- Probability and risk based inspection planning -- pt. 5. Risk assessment: Risk assessment methodology -- Risk assessment applied to offshore structures -- Formal safety assessment applied to shipping industry -- Economic risk assessment for field

	development -- Human reliability assessment -- Risk centered maintenance
Sommario/riassunto	This new reference describes the applications of modern structural engineering to marine structures. It will provide an invaluable resource to practicing marine and offshore engineers working in oil and gas as well as those studying marine structural design. The coverage of fatigue and fracture criteria forms a basis for limit-state design and re-assessment of existing structures and assists with determining material and inspection requirements. Describing applications of risk assessment to marine and offshore industries, this is a practical and useful book to help engineers conduct structural design. *Presents modern structural design principles helping the engineer understand how to conduct structural design by analysis *Offers practical and usable theory for industrial applications of structural reliability theory